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February 17, 2009: A day living in infamy

Give or take perhaps 50, on February 17th some 1,800 'full license' TV transmitters serving more than 300 million people in just over 100 million households are scheduled to shut-off their 10,000 to 5,000,000 watt VHF and UHF transmitters. The day was selected to fall after that annual super-hype day called 'Super Bowl Sunday' (February 1 in Tampa, Florida) - an event which traditionally attracts more viewers to more television sets than any other single annual day in US history.

The premise: 'Analogue is past-tense, dead, gone; digital is the future, here, now'.

The reality: Television as we all now know it was first introduced in the UK (London) in 1936; July 1, 1940 in the USA. Over the decades *analogue* has progressed from the original 341 scanning lines to 525 (USA; 625 Europe) to a Japanese system offering more than 1,100 lines. Each increase in scanning lines (improved definition of the image) has required a companion increase in transmission bandwidth (6 MHz in USA, 7 or 8 in Europe + Australia and New Zealand) and television - as a user of bandwidth - was always under pressure from a multitude of other services each requiring their own spectrum space.

Higher and higher definition was (as the Japanese first demonstrated successfully more than two decades ago) possible, perhaps even desirable, but the spectrum -consumption required was never seriously on the table.

Television appeared at a time when transmission and reception technology was hampered by a critical lack of experience using frequencies above 100 megacycles. Even with 341 line scanning, a single television station (channel) required around 4 megacycles (today we call them megahertz) of 'space'. Moreover, the only spectrum segment meeting the demands of television existed between 40 and 100 megacycles. By 1945 this would be refined to 'between 54 and 100 megacycles' although some experimentation was also occurring in the 160 megacycle region. Simultaneously, the number of scanning lines had evolved (to 405 lines in the UK and the minimum 'bandwidth or spectrum space required for a TV channel had become 5 in the UK). And looming on the horizon by 1945 was the promise of colour TV - which in its 1945-1952 format required up to 12 megacycles of space for a single TV channel.

Fortunately, WW2 research had rapidly escalated 'critical knowledge' and whereas 100 megacycles seemed difficult to achieve by 1940, 1,000 seemed possible (although daunting) by 1948. And this opened the doorway for the rapid expansion of television, world-wide. But it also did something else; with first millions, then hundreds of millions and ultimately billions of receivers pushed into the planet's viewing

Synopsis: The bigger they are - the harder they fall!

There should have been no surprise to TV viewers in the USA - they have been pre-warned through endless media announcements that 'existing analogue television service' would cease at midnight February 17, 2009. And in fact, while nobody with credentials has actually created a study, by households 85% are believed to receive their present television either via cable (63%) or (Ku-band) satellite (22%) and for this group there would be no 'loss of TV service' simply because the cable or satellite provider was in the stream to correct the analogue to digital conversion.
To assist the remaining 15% government adopted legislation to provide a (US)$40 'STB coupon' which when taken to a participating retailer would pay all but $10 of the cost of a digital to analogue device; future proofing their existing reception.
Only it hasn't quite worked out as planned and now it appears February 17th could be a non-event. The root cause? How do you spell politics???

locations, it froze the technology at a level which (with minor, non-essential improvements) actually was last current in approximately 1955. Fifty-plus years of 'static technology' simply ran counter to the balance of the world's changes in the same half-century.

The digital logic

Digital would be the answer and for the creators of consumer and commercial television equipment (both the transmission and reception sides) and it would be like "*having all of your Christmases come at once*"; a global-wide dump of every analogue device on the planet over perhaps a ten year period of time.

Digital, with roots in computing and the web, certainly does seem like an attractive replacement although the present level of digital-television is not yet mature. In history, this would be the equivalent of where analogue was in perhaps 1965 (by then the original problems relating to analogue colour had been solved and spectrum use of the UHF or Ultra High band was coming together). In other words, we have not *yet* experienced all that digital will ultimately be capable of doing and it has one major advantage over analogue; once the analogue technical standards were adopted, that pretty much froze the parameters whereas digital is 'self healing' and with some minor limitations progress in the form of new software will keep the improvements coming for a decade or longer.

Digital required a triple-sell to happen. First there were the consumers who needed some reason to replace existing analogue equipment. Flat screen, large display, HD to the rescue with the promise of 'new, extra channels' tossed in for good measure. Second there was the telecasting industry at its many various levels (networks, individual stations, advertising creators, programme creators). When the transition to digital began, commercial station activity was at an all-time revenue high and there was the added incentive that once digital the stations could opt to transmit several separate programmes simultaneously; twice or thrice the opportunity to sell commercial time! A relatively easy sell in the late 90s. Finally there was government, perhaps the easiest sell of all. Digital's transition would require a total revamping of which station operated within the various frequency bands available and at the end of that tunnel government would be handed back whole blocks of channels which could then be recycled (sold) to new users.

In North America from the mid-50s onward television chewed up 54-88, 174-216 and 470-890 megacycles/ megahertz; 492 of 1,000 between 0 and 1,000. Police, fire, public safety, local government, aircraft, remote sensing, mobile telephones and every other new technology user that developed from the 50s onward was squeezed into a small segment of what remained - after the US Military had grabbed 225-420 for their own. It was, indeed, time for a change (television would when the digital transition was complete, lose approximately 50% of their original analogue assignment space leaving on an area by area geographic basis approximately 250 'unused' megahertz to be sold by government). It was 'win-win-win' for all three. *Sort of.*

Those 15 percent 'non-conformists'

The 'average' US dollar monthly cable bill pushes $70 (NZ$119, Au$101) while satellite is typically ten percent cheaper. But lost in the numbers is the incredible 'choice' of packages. With 300-400-500 channels available, the sellers have almost unlimited opportunity (and pressure) to 'mix and match' channel groups in typically $5 and $10 increments to *expand* a 'basic service' package.

The US minimum wage presently is $6.55 per hour (or $2.13 per hour if the job involves 'tips' which would effect workers at restaurants). That works out of NZ$11.17 per hour or Au$9.47 (where the minimum wage is Au$14.31 per hour - equals NZ$16.89 which goes a long way towards explaining why so many Kiwis end up in Australia). *Why do we care?*

Eventually consumers weigh the cost of TV - whether cable or satellite - against their own wage packet. In each of the three countries:

1/ USA - cable equals 10.7 hours pay

2/ Australia - Foxtel equals 5.9 hours of pay

3/ New Zealand - Sky equals 6.2 hours of pay

and obviously the USA viewers are being stung the hardest. And for not less than 15 percent of US homes, 10.7 hours of (minimum wage) work - at the local K-Mart for example - is simply too much to pay. So they have no cable, no satellite. *They have antennas.* And they have old fashioned analogue-only TV sets. This is the group which the US Congress attempted to "help" by allocating US$1.5 billion to be awarded in $40 coupons - to be used at the local retail store where for US$50 or so (some - not many - are in fact $40) they could pick up a STB that promised to deliver digital in and analogue out to their old fashioned TV set.

Run the numbers at $40 per government coupon; it works out to more than 37,000,000 STBs - surely enough to deal with 15,000,000 homes?

The $40 coupon effort involved going to a web site (that of course assumed the little old lady in suburban Chicago [1] has a PC, [2] has web service, [3] could navigate through the frankly 'complex' set of questions requiring answers). Many people did - you could ask for two coupons as easily as not (this writer did using a totally fictitious address in Hawaii and another one in California) and immediately in my case there were four less coupons available in the pool.

Back to the $1.5 billion dollar give-away legislation. The fine print said you, once you filed for your 'free coupon', had 90 days to use it. Using it involves going to a retail store, selecting a STB, paying the difference (if

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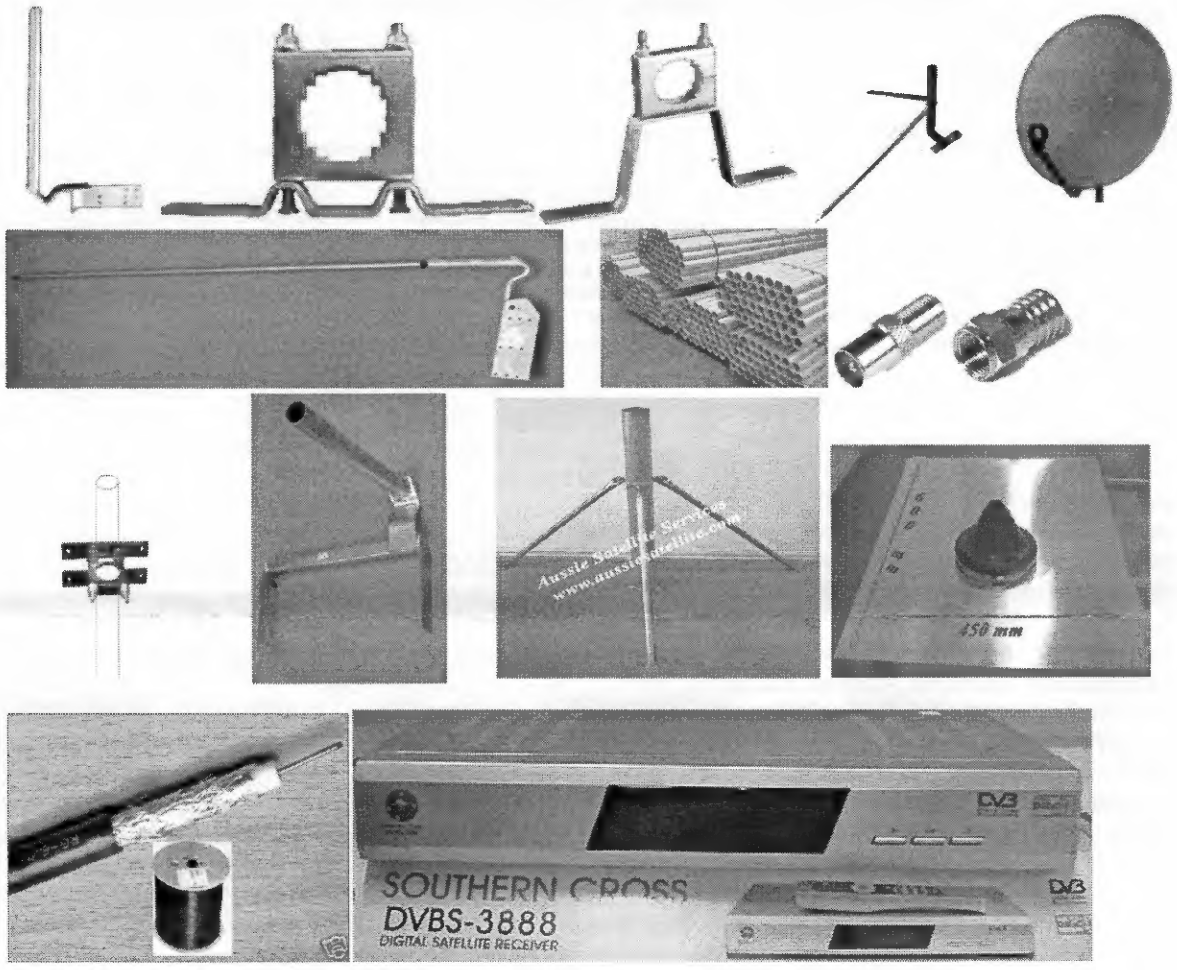

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any) and handing in the coupon. By some form of magic the store turned your coupon into $40 cash at their bank. Alas, if you did not do this within 90 days, your coupon 'ran out'. It was no longer valid (which both of my sets were - the Hawaii fictitious address set of course never reached me and possession of the actual printed coupons was a part of what was required when you go STB shopping).

But the legislation only authorized $1.5 billion in coupons to be issued and sure enough, along about December (2008) they reached the magic number of 37 million-plus coupons issued. Being the US treasury, when they considered the $1.5 billion '*had been spent*' - no more coupons were issued. As I write these words over 400,000 people are on a waiting list - waiting until one of the coupons issued and NOT used (such as my four) goes past 90 days and then someone on the 'waiting list' will receive their own coupon.

Seems pretty straight forward but now we have politics entering the scene. The entire scheme - and it was a 'scheme' - was the result of the George W. Bush White House period; a Republican plan to transition those 15% of homes who refused to conform to cable or satellite. And it was administered - sort of but not very well - by a Republican majority at the FCC - the Federal Communications Commission. But hey - in November there was a new president-elect (Barak Obama) and his Democratic-Party majority had a new way of reviewing the Bush legacy; including the transition to digital TV.

"*We recommend a postponement of the February 17th date*" said the incoming Obama team.

Never mind that for two years the public has been told "*February 17th is THE date*". Never mind that even before the early January bombshell statement several hundred of the TV stations had already switched off their analogue transmitters after modifying their transmission equipment. Never mind that under Bush TV stations were allowed ONLY to transmit on their existing analogue channel AFTER February 17th an 'announcement' advising people to "*go get digital*".

The TV channels. All but a tiny handful of TV stations making the analogue to digital switch were changing channels; such as channel 2 (54-60 MHz) to channel 35 - a UHF channel. In fact, based upon common knowledge the WORST place to be with digital was going to be the so-called 'low band' channels (2-6; the original 54-88 MHz bandwidths). Why? Noise and interference for a starter. These channels, once the BEST place to be (for analogue) were now the WORST place to be (for digital). Nationwide, fewer than 50 stations would restart in digital on 'low band' (today in analogue, nearly 300 stations operate there).

For virtually every TV station, 1,800 plus in all, digital has meant a brand new transmitter, a new to-channel transmission antenna and a year or two or three of operating 'in parallel' - analogue still functional while a temporary transmit antenna usually side mounted on their analogue transmission tower was pumping out at reduced power levels a sort of 'test digital service'. Back in September, TV stations began the transition seriously; in Wilmington, North Carolina, all (six) TV channels switched off their analogue and began full-time digital. In Nebraska, the entire state-wide network of educational TV (PBS) channels did likewise. There is - has been - will be - extraordinary costs associated with the switch. New hardware, and at the last minute for many, bringing in a professional tower crew to demount their existing analogue (channel) transmit antennas and replace them with the new digital (channel) antennas. February with ice, snow and storms is not exactly the best time of year to be climbing 2,000 foot towers and replacing antenna systems.

But the Obama incoming group sees a political opportunity here - to make Bush and the Republicans look bad (*again*). So they have pending legislation in Congress to cancel February 17th - for who knows how long - despite the fact hundreds of stations cannot continue to operate in analogue anyhow - they will or are already missing important analogue hardware. It is the classic example of "*politics rules - common sense does not*".

The Republicans of course, anxious to save face in an area virtually nobody seems to properly understand, have rebounded with their own legislative proposal; 'increase the $1.5 billion allocation for STB coupons and cancel the 90 day use-or-lose condition attached to each one issued'.

It is a mess as only Americans could create. Millions, tens of millions, of messages have appeared in print, as 'crawls' across the bottom of TV screens, as special 30 and 60 minute 'FYI' (for your information) TV shows to explain February 17th to a largely yawning public that in 85% of the homes could care less; they are not affected and they know this.

Stay tuned - February 17th is a month away and given their propensity to screw up even a simple concept, the last days of analogue TV in the USA may not be settled yet.

Charlie's Problem

One might suspect that in the midst of turmoil somebody with a better plan would step up to offer a solution. We have reported at some (annoying) length about the trials and tribulations of one Charles W. Ergen who is the wealthy man who owns the most stock in American satellite firm DISH/Echosphere.

At a point in time when 15 million US homes are faced with "digital STBs or snow on their screens" Charlie's satellite group has a plan; US$9.99 per month to have satellite TV. That works out to NZ$17.07 or Australian

$14.43. Obviously there is some fine print someplace in this offer.

It is well hidden (the fine print). And it deals with a commitment for a very long period of time (three years) and the $9.99 per month fee is for a VERY restricted group of (150) channels and then only for a 'trial period' of six months. But as they say in the satellite biz, "First you get the box into their home and then you build upon that."

Actually, DISH's big news (are you listening Fotel/Austar/Sky?) is more complex than a fire-sale pricing for new subscribers. It involves the Slingbox device into which Dish dumped nearly US$400 million a few years back. Slingbox, as reported in SatFACTS in some detail when it was first introduced, allows you to take your at-home TV with you while away or traveling - 'slinging the home reception channel by channel at your choice to a laptop or other PC through Internet'.

Two new home DISH receivers (HD DVR ViP 922 is the primary offering) allow instant transfer (subject of course to the condition of 'the web' between your home and where you happen to be) to TV sets, PCs, even smart phones (including the Apple iPhone).

SatFACTS reported (December 2004) on a visit by this writer and creative engineer Kenny Schaffer to Charlie Ergen's offices in Colorado where we demonstrated 'TV2Me' - a Schaffer creation. TV2Me was the original machine capable of 'slinging' by remote control TV reception literally all around the planet. During that SF reported visit Kenny and I displayed how Charlie's own hands could (and did) select whether he wished to be watching live television from (1) Moscow, (2) New York City, or, (3) London. As with DISH's new ViP 922, the user had a guide as to channels and even current programming. Schaffer (and I) believed we had the next generation of TV service - take it with you wherever you go and Ergen's reaction was very positive.

Unfortunately for Schaffer, Ergen treated the day-long demonstration as a learning curve rather than an opportunity to purchase Schaffer's (patent pending) technology. Within 18 months DISH had acquired start-up firm Slingbox which had in the interim created a lower cost duplicate of Schaffer's original work (Schaffer at the time was selling a few of his systems per week, worldwide, mostly to movie, sport and rock stars who first of all could afford the one-off price tag [US$5,000] and secondly were away from home. Artist 'Sting', for example, could [and did] take his UK 'football' team games with him wherever he went).

None of this has set well with Kenny Schaffer who in his heart believes Ergen used the session with us in Colorado to start his own company down the trail to the now commercially available new service introduced at the CES in Las Vegas earlier in January.

And there is now no shortage of similar devices available - the concept that TV could be compressed to a small enough bandwidth to 'fit' into a 256/384 telco wire for planet-wide sharing. One of these just announced is Monsoon Multimedia who calls their version Sociable TV. The official release says, "*SociableTV is a social web site that lets HAVA owners share their living room TV viewing experience with multiple friends. Monsoon's technology enables friends to watch and experience live TV as if they were sitting on the sofa next to each other - without having to download anything.*"

The HAVA product, apparently required for this site to function, is available in the USA from the Best Buy chain as well as from www.myhava.com/ and a growing list of (US) retailers (the site is worth a visit). There is an element of 'trust' involved in all of this - the "free to use if you have HAVA" site that is to support the innovation is not scheduled to start until sometime between April and June (this year). More data is promised at http://www.monsoonmultimedia.com/. All of this came out during the CES Las Vegas conclave - somebody apparently overlooked the significant financial problems at the Best Buy store chain (reports say more than half have been closed).

Australia's 'Freeview' Getting Thumbs Down

Australia's FTA services decision to join hands around a newly named 'Freeview' service is attracting a significant, perhaps orchestrated, 'anti-Freeview' campaign in Australian newspapers. "*It is mutton dressed up as lamb*" has become the catch phrase to attack the service plan.

Pay TV providers (Foxtel and Austar) probably have nothing to fear from the 15 channels which have gathered under the new 'Freeview' banner but somebody out there is attacking it as "the same old TV stuff with a new label".

In fact there are probably not 15, perhaps 12 if you say them real fast, which over the air FTA Australian digital channels will have on offer. Digital TV launched in Australia in 2001 and the most optimistic studies suggest 40% of homes have taken it up. The essence of the written attacks seems to be 'there is virtually nothing really new' in the offering - although a Ten Network 24 x 7 All Sport channel now scheduled for April-June start would perhaps be promising. One commentator perhaps has it right: "*It is little more than a marketing tool designed to staunch the onward march of pay TV and encourage people to switch to digital.*"

DW TV AsiaSat 3 Changes

On March 2nd, DW (Deutsche Welle) TV from Germany, presently part of the AsiaSat 3 NOW multiplex (3760Hz, 26.000, 7/8), will be recreating their current 24 x 7 format which currently programs 11 hours of English, 1 hour of Spanish and 12 of German. There will be two channels - DW-TV Asia+ will branch out to offer

programming from non-German, European, sources while a second channel (DW-TV Asia) will become 16 hours German and 8 English. Details are (will be) available at www.dw-world.de/asia.

Canadian Ex-Pirate now $100,000 richer

Andre Lahaie had his home and business establishment raided by the RCMP (Canada's mounties) in November 1998. They found television decryption equipment, bundles of cash, computer records. Lahaie was alleged to be 'the largest supplier of American grey market television reception equipment' in Eastern Canada. Only at that time there was no law in place to justify the charges against him (it would be 2002 before such a law came into being in Canada). Lahaie saw his life fall apart after the RCMP appeared on Canadian television to show off their booty. His family was ostracized by friends and neighbours and for ten years he has sought restitution once it became clear he was in fact breaking no existing laws when the raid occurred.

Now he has been awarded (Canadian) $100,000 in restitution from the government after an Ontario Superior Court found the mounties had violated his Charter of Rights. The award revolved around the mounties assuring the court in 1998 Lahaie was a law breaker when in fact he was not. The Canadian courts closed the loop hole that had allowed Lahaie to operate in 2002, making it illegal to sell satellite equipment for reception of 'foreign' service reception (think United States); a law that still stands.

Satellite TV and Hezbollah

At the height of national frenzy inside the United States that warned of the dangers associated with terrorism (2006), Javed Iqbal living in the New York City region was arrested and charged with aiding a terrorist organization; Hezbollah. What he as actually doing was selling C and Ku band satellite reception equipment capable of direct reception from Lebanese TV service Al Manar. And the Bush government had declared Al Manar ("*the beacon*" in Arabic) a 'global terrorist entity'. The original charges, 11 counts in all, included 'providing material support to a terrorist organization'

The US government claimed and the court agreed Al Manar was operated as a system to raise funds and encourage terrorism activities. Iqbal, originally from Pakistan, apparently did more than simply sell satellite equipment capable of Al Manar reception - he had some level of 'business relationship' with the TV channel and this the court decided was the same as being supportive of a foreign terrorist organization. He will be sentenced to a jail term late in March, from 5 to 6 years is forecast. A codefendant, Saleh Elahwal, is yet to be tried.

Update: Pacific Satellite Operations

Scheduled launches: February 9th twin shot: 80E Russian MD1, 8 C + 1 L (no typo here!); 177W NSS-9 replacing NSS-5 with 28 C-band.

AsiaSat 2/100.5E: "France 24 Hour English is now running (FTA) 4000H (SR28.125, 3/4 V380, A381) - all the news it is fit to read from France and the world, in English!" **(LeGrand)** "Al Jazeera Sport Channel 1 testing 3960H in late December (27.500, 3/4) - FTA at time but probably not for long." **(GH)**

AsiaSat 3S/105E: "Geo News International began late December 4180V, 26.666,3/4 (V1012, A201); initially FTA." **(Jared)**

Intelsat 2-5/169E: "As predicted, with PAS-2/Intelsat 2 going into figure 8 orbit, ABC1/NT and WIN left 12.281V; whether they return after Is5 takes over January 15th unknown. IS5, warts and all, arrived at 169E just after 1 January and some testing has been reported." **(Dunkle)**

Intelsat 8/166E: "Al Jazeera SPORT (!) testing on 12.726H; FTA." (Miriam)

Optus D2/152E: "On 21 December Globecast fed a 'live' WIGGLES CONCERT to theatres and other locations throughout Australia; the first feed was 12.660V, 6.110, 3/4 in an encryption system my DVB2000 could not identify. But a second feed for WA on 12,675, 13.330 and 3/4, began as Irdeto V2 and then switched to FTA." **(IF, Qld)** "3ABN, USA religion, has moved from 12.706V to 12.545V (22.500, 3/4); Al Anwar (Arabic, apparently USA origin) is new FTA 12.733V (22.500, 3/4) although scroll on screen incorrectly says they are on 12.706V; not. The two new (nba_hot, nba_thai) have left 12.545V. "VTV-4 (Vietnam) 12.545V (22.500, 3/4) remains FTA contrary to a SF forecast!" **(IF, Qld)**

Optus D3/156E: No further updates available on probable launch date; editor.

Soapbox: "Globecast tech bad habits? A technical problem affecting UEC 642 and others occurs when the tech is too lazy to type in the full NIT tables on 4 of the 5 MCPCs causing some receivers to become intermittent on all but 12.706V. Globecast's 'home' MCPC is 12.706V (22.500, 3/4) and it has a complete NIT listing for all 5 MCPCs. But the other four only have NITs which list 2 MCPCs - themselves plus 12.706V causing some receivers to delete channels that belong to MCPCs they believe have been deleted; Duh!" **(IF, Qld)**. "Speaking of unusual programming - USA origin 'Daystar' which appears to be a Baptist channel runs advertisements for www.jewishvoice.tv." **(AI, NSW)** "If one of your Aurora smartcards stops working, try www.optus.com.au/ smartcard." **(NS, Vic)** "Rumours are flying about Aurora intends to abandon the Irdeto 1 smartcards moving all users to V2." **(IF, Qld.)** "I did not leave my Aurora card (V1) in a running receiver and sure enough it quit. So I called 1300-301-680 and selected option 3 and within 3 minutes the card was back running again. I don't suggest trying this from outside of Australia!" **(NS, NSW)**

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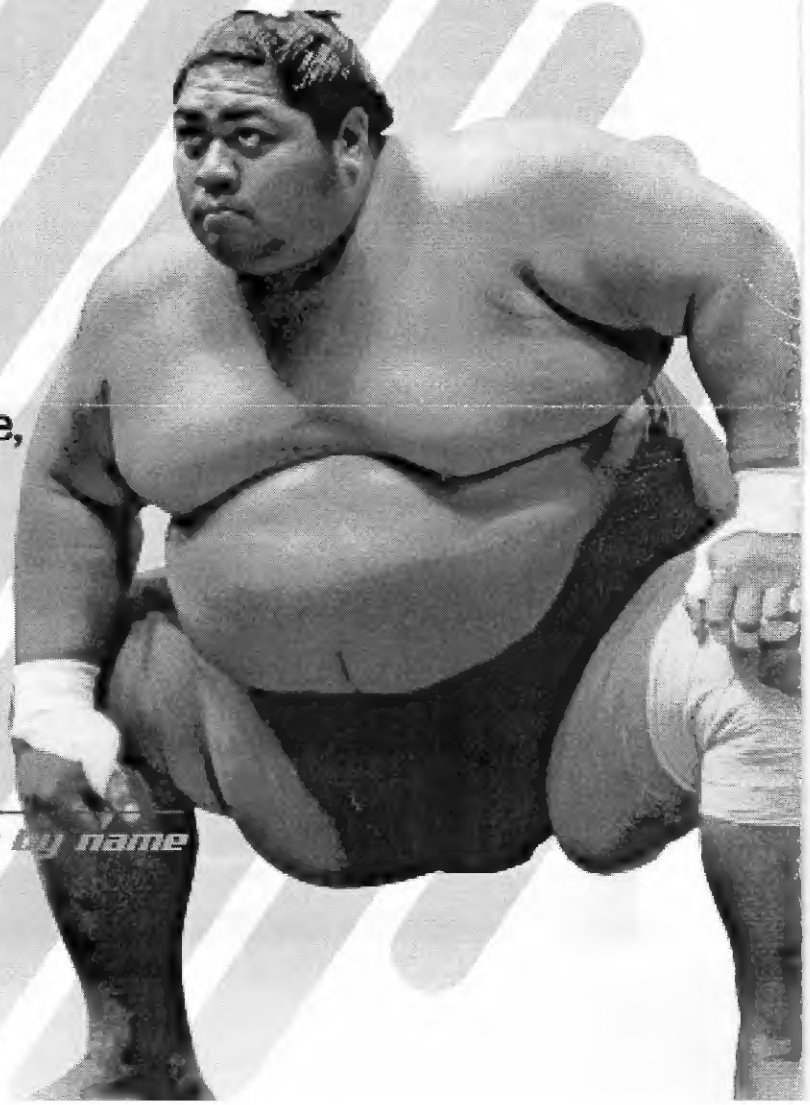

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